**DEPARTMENT OF TRANSPORTATION**
DIVISION OF ENGINEERING SERVICES
Office of Structural Materials
Quality Assurance and Source Inspection

Bay Area Branch
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Contract #: 04-0120F4
Cty: SF/ALA Rte: 80 PM: 13.2/13.9
File #: 69.28

# WELDING INSPECTION REPORT

**Resident Engineer:** Pursell, Gary
**Address:** 333 Burma Road
**City:** Oakland, CA 94607

**Report No:** WIR-001965
**Date Inspected:** 05-Apr-2008

**Project Name:** SAS Superstructure
**Prime Contractor:** American Bridge/Fluor Enterprises, a JV
**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island

**OSM Arrival Time:** 1800
**OSM Departure Time:** 730
**Location:** Shanghai, China

**CWI Name:** Zhu Zhonghai

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|---|---|---|---|---|---|---|---|---|
| **Inspected CWI report:** | ☐ Yes | ☑ No | ☐ N/A | **CWI Present:** | ☑ Yes | ☐ No | |
| **Electrode to specification:** | ☑ Yes | ☐ No | ☐ N/A | **Rod Oven in Use:** | ☐ Yes | ☐ No | ☑ N/A |
| **Qualified Welders:** | ☑ Yes | ☐ No | ☐ N/A | **Weld Procedures Followed:** | ☑ Yes | ☐ No | ☐ N/A |
| **Approved Drawings:** | ☑ Yes | ☐ No | ☐ N/A | **Verified Joint Fit-up:** | ☐ Yes | ☐ No | ☑ N/A |
| | | | | **Approved WPS:** | ☑ Yes | ☐ No | ☐ N/A |
| | | | | **Delayed / Cancelled:** | ☐ Yes | ☑ No | ☐ N/A |

**Bridge No:** 34-0006
**Component:** Tower

**Summary of Items Observed:**

Caltrans Quality Assurance (QA) Inspector, Mike Hasler was present to observe the fitup, welding and related activities associated with the fabricating of Caltrans Mock-up, 77M, 89M, 114M, Orthotropic Box Girders (OBG) and Tower, for the San Francisco Oakland Bay Self Anchored Suspension Bridge, at Zhenhua Port Machinery Company (ZPMC) facility on Changxing Island.

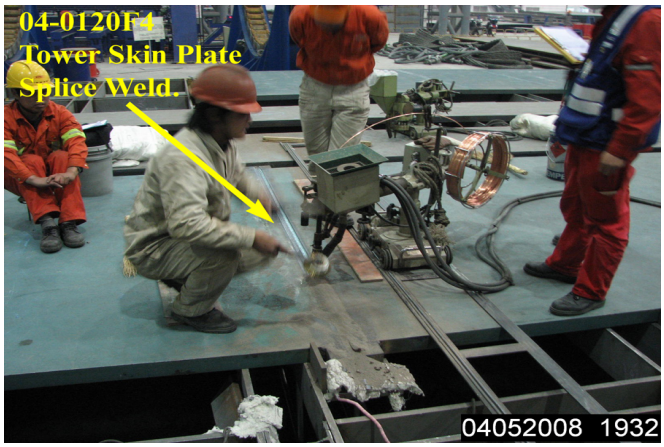
| Item | Description | WBS | Dwg No. | Status |
|---|---|---|---|---|
| 1 | Tower Skin Plate | NA | NA | ZPMC Heat Straightening |

New Tower Shop: The Caltrans QA Inspector observed ZPMC performing flame heat straightening operations on tower skin plates for mill distortion. The tower skin plate and heat straightening procedure are identified as skin plate SA49 (W), procedure HSR1 (T) 413, revision (0). Caltrans QA observed ZPMC heating the plate manually with a rose-bud torch. Caltrans QA observed ZPMC Quality Control Inspector, Mr. Yang Ming Ming monitoring the heat straightening of the plate using a calibrated infra-red temperature indicating device to monitor the heat.

| Item | Description | WBS | Dwg No. | Status |
|---|---|---|---|---|
| 2 | Tower Skin Plate | NA | NA | Welding in Progress |

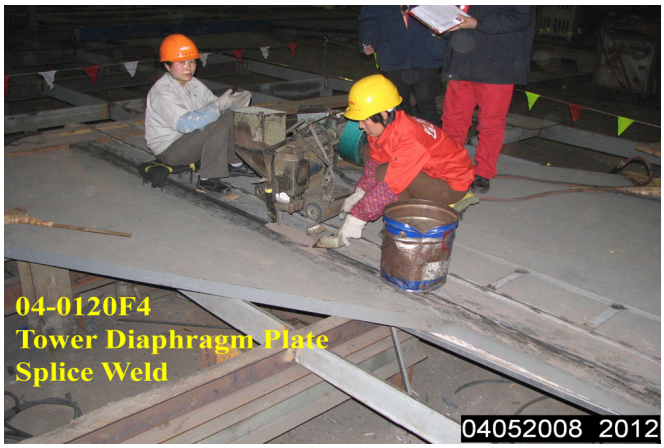
New Tower Shop Bay 1: Caltrans QA Inspector observed submerged arc welding (SAW), complete joint penetration (CJP) skin plate splice, fill pass weld. The subassembly is identified as skin plate SA107 (W) to P882 (W), weld location WSD1-SA107 D/J -16A. The welder operator is identified as Mr. Xue Yi An, welder stamp 040634. The welder is observed using welding procedure specification, WPS-B-T-2221-B-U3c-S, revision 1. Caltrans QA measured current welding parameters at approximately 685 amps, 33.0 volts and 620mm/min (millimeters per minute) travel speed. Caltrans QA verified the preheat and interpass temperatures during the welding activities. The preheat temperature prior to the start of welding measures more than 110 degrees Celsius but less than 230 degrees Celsius during maximum interpass temperature verification. Caltrans QA observed ZPMC Quality Control (QC/CWI), Mr. Zhu Zhonghai monitoring the welding activities at the work-station. The following digital photograph illustrates welding in

progress at the work-station.




3 Tower Diaphragm Plate NA NA Welding in Progress

Bay 8: Caltrans QA Inspector observed submerged arc welding (SAW), complete joint penetration (CJP) diaphragm plate splice, fill pass weld. The subassembly is identified as diaphragm plate SA334 (S) to P348 (S), weld location SSD1-SA334 A/B -1B. The welder operator is identified as Ms. Ma Ying, welder stamp 045270. The welder is observed using welding procedure specification, WPS-B-T-3221-B-U3c-S-1, revision 0. Caltrans QA measured current welding parameters at approximately 620 amps, 31.0 volts and 490mm/min (millimeters per minute) travel speed. Caltrans QA verified the preheat and interpass temperatures during the welding activities. The preheat temperature prior to the start of welding measures more than 180 degrees Celsius but less than 230 degrees Celsius during maximum interpass temperature verification. Caltrans QA observed ZPMC Quality Control (QC/CWI), Mr. Ye Yong jun monitoring the welding activities at the work-station. The following digital photograph illustrates welding in progress at the work-station.




**Summary of Conversations:**

As identified within the contents of this report.

**Comments**

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Mazen Wahbeh, (818) 292-0659, who represents the Office of Structural Materials for your project.

# WELDING INSPECTION REPORT

*( Continued Page 3 of 3 )*

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|---|---|---|
| **Inspected By:** | Hasler,Mike | Quality Assurance Inspector |
| **Reviewed By:** | Cuellar,Robert | QA Reviewer |